

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Canceled)
2. (Currently amended) A substrate processing apparatus, comprising:
 - a process chamber in which a substrate is plasma-processed;
 - a gas introducing mechanism configured to introduce a first gas and a second gas into the process chamber;
 - a holding mechanism having a surface provided in the process chamber and configured to horizontally hold the substrate on the surface;
 - a first exhaust mechanism having a first exhaust port positioned higher than a surface of the substrate on the holding mechanism in the process chamber, and configured to exhaust an inside of the process chamber when the first gas for plasma processing is introduced into the process chamber by the gas introducing mechanism to plasma-process the substrate; and
 - a second exhaust mechanism having a second exhaust port positioned lower than the holding mechanism and provided in a wall of the process chamber, and configured to exhaust the second gas inside of the process chamber after the plasma processing, the second gas removing reaction products remaining in the process chamber.

wherein the first exhaust port of the first exhaust mechanism and the second exhaust port of the second exhaust mechanism are connected with a common pump.

3. (Previously presented) The substrate processing apparatus as set forth in claim 2, further comprising:

a hoisting/lowering mechanism configured to move the holding mechanism upward when the substrate is plasma-processed, and move a support mechanism downward when the inside of the chamber is cleaned,

wherein the first exhaust port is positioned higher than the surface of the substrate on the holding mechanism that has been moved up by the hoisting/lowering mechanism, and

wherein the second exhaust port is positioned lower than the holding mechanism that has been moved down by the hoisting/lowering mechanism.

4-5. (Canceled)

6. (Previously presented) The substrate processing apparatus as set forth in claim 2,

wherein the first exhaust mechanism exhausts the inside of the process chamber concurrently with the exhaust by the second exhaust mechanism when the gas for cleaning is introduced into the process chamber by the gas introducing mechanism to clean the inside of the chamber.

7. (Previously presented) The substrate processing apparatus as set forth in claim 2, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.

8. (Previously presented) The substrate processing apparatus as set forth in claim 3,

wherein the first exhaust mechanism exhausts the inside of the process chamber concurrently with the exhaust by the second exhaust mechanism when the gas for cleaning is introduced into the process chamber by the gas introducing mechanism to clean the inside of the chamber.

9. (Previously presented) The substrate processing apparatus as set forth in claim 3, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.

10. (Canceled)

11. (Currently amended) A substrate processing apparatus, comprising:
a process chamber in which a substrate is plasma-processed;
a gas introducing mechanism configured to introduce a first gas for plasma processing and a second gas for cleaning into the process chamber;
a holding mechanism having a surface provided in the process chamber and configured to horizontally hold the substrate on the surface;
a first exhaust mechanism having a first exhaust port positioned higher than a surface of the substrate on the holding mechanism in the process chamber, and configured to exhaust the first gas inside of the process chamber; and
a second exhaust mechanism having a second exhaust port positioned lower than the holding mechanism and provided in a wall of the process chamber, and configured to exhaust the second gas inside of the process chamber after the plasma processing, the second gas removing reaction products remaining in the process chamber,
wherein the first exhaust port of the first exhaust mechanism and the second exhaust port of the second exhaust mechanism are connected with a common pump.

12. (Previously presented) The substrate processing apparatus as set forth in claim 11, further comprising:
a hoisting/lowering mechanism configured to move the holding mechanism upward and downward,

wherein the first exhaust port is positioned higher than the surface of the substrate on the holding mechanism that has been moved up by the hoisting/lowering mechanism, and

wherein the second exhaust port is positioned lower than the holding mechanism that has been moved down by the hoisting/lowering mechanism.

13. (Previously presented) The substrate processing apparatus as set forth in claim 11,

wherein the first exhaust mechanism exhausts the inside of the process chamber concurrently with the exhaust by the second exhaust mechanism when the gas for cleaning is introduced into the process chamber by the gas introducing mechanism to clean the inside of the chamber.

14. (Previously presented) The substrate processing apparatus as set forth in claim 11, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.

15. (Previously presented) The substrate processing apparatus as set forth in claim 12,

wherein the first exhaust mechanism exhausts the inside of the process chamber concurrently with the exhaust by the second exhaust mechanism when the gas for cleaning is introduced into the process chamber by the gas introducing mechanism to clean the inside of the chamber.

16. (Previously presented) The substrate processing apparatus as set forth in claim 12, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.

17. (Previously presented) The substrate processing apparatus as set forth in claim 13, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.

18. (Previously presented) The substrate processing apparatus as set forth in claim 15, further comprising:

a microwave generator configured to generate a microwave for plasma processing of the substrate,

wherein a reactive gas is used as the gas for cleaning, and

wherein the microwave generator generates the microwave also when the inside of the process chamber is cleaned.